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SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by △ in the Schematic Diagram and Exploded View.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

General Guidance

An isolation Transformer should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Before returning the receiver to the customer,

always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

Leakage Current Cold Check(Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1MΩ and 5.2MΩ. When the exposed metal has no return path to the chassis the reading must be infinite.

An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

Do not use a line Isolation Transformer during this check. Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity. Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit

When 25A is impressed between Earth and 2nd Ground for 1 second, Resistance must be less than 0.1 Ω

*Base on Adjustment standard
**SERVICING PRECAUTIONS**

**CAUTION:** Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the SAFETY PRECAUTIONS on page 3 of this publication.  

**NOTE:** If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

**General Servicing Precautions**

1. Always unplug the receiver AC power cord from the AC power source before;
   a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
   b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.  
   **CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by “drawing an arc”.

3. Do not spray chemicals on or near this receiver or any of its assemblies.

4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped slick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength) 
   **CAUTION:** This is a flammable mixture. Unless specified otherwise in this service manual, lubrication of contacts in not required.

5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.

6. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.

7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead. Always remove the test receiver ground lead last.

8. Use with this receiver only the test fixtures specified in this service manual.  
   **CAUTION:** Do not connect the test fixture ground strap to any heat sink in this receiver.

**Electrostatically Sensitive (ES) Devices**

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components are commonly called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.  
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.  
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.  
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.  
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.  
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed. 
   **CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

**General Soldering Guidelines**

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range of 500°F to 600°F.  
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.  
3. Keep the soldering iron tip clean and well tinned.  
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.

5. Use the following unsoldering technique
   a. Allow the soldering iron tip to reach normal temperature. (500°F to 600°F)
   b. Heat the component lead until the solder melts.
   c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.  
   **CAUTION:** Work quickly to avoid overheating the circuit board printed foil.

6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach a normal temperature (500°F to 600°F)
   b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.  
   **CAUTION:** Work quickly to avoid overheating the circuit board printed foil.
   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.
IC Remove/Replacement
Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal
1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement
1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

“Small-Signal” Discrete Transistor Removal/Replacement
1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a “U” shape the end of each of three leads remaining on the circuit board.
3. Bend into a “U” shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the “U” with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device Removal/Replacement
1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement
1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two “original” leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor Removal/Replacement
1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair
Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or “lift-off” the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections
To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small “U” in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections
Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.
SPECIFICATION

NOTE: Specifications and others are subject to change without notice for improvement.

1. Application range
This spec sheet is applied to LCD TV used LP91T chassis.

2. Specification
Each part is tested as below without special appointment.

1) Temperature: 25±5°C (77±9°F), CST: 40±5°C
2) Relative Humidity: 65±10%
3) Power Voltage: Standard input voltage (100-240V@50/60Hz)
   * Standard Voltage of each products is marked by models.
4) Specification and performance of each parts are followed each drawing and specification by part number in accordance with BOM.
5) The receiver must be operated for about 5 minutes prior to the adjustment.

3. Test method
1) Performance: LGE TV test method followed
2) Demanded other specification
   - Safety: CE, IEC specification
   - EMC: CE, IEC

4. Electrical specification
   - General Specification

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<th>Specification</th>
<th>Measurement</th>
<th>Remark</th>
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<td>32” wide Color Display Module</td>
<td>Resolution: 1920*1080</td>
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<td>2</td>
<td>Aspect Ratio</td>
<td>16:9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>LCD Module</td>
<td>32” TFT WUXGA LCD</td>
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<td></td>
</tr>
<tr>
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<td>Operating Environment</td>
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<td>Humidity: 0 ~ 85%</td>
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<tr>
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<td>Temp.: -20 ~ 60 deg</td>
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</tr>
<tr>
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<td>Input Voltage</td>
<td>AC100-240V~, 50/60Hz</td>
<td>≤116.7W FHD, 200/240Hz(SBL)</td>
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<td>LDC Module (Maker: LGD)</td>
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   Coating: 3H, Anti-Glare
## 5. Chroma & Brightness (Optical)

(1) LCD Module

The Color Coordinates check condition
- 50cm from the surface, Full White Pattern
- Picture mode Vivid

<table>
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<td>2</td>
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## 6. Component Video Input (Y, Pb, Pr)

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<th>V-freq(Hz)</th>
<th>Pixel Clock(MHz)</th>
<th>Remark</th>
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<td>1</td>
<td>720*480</td>
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<td>720*576</td>
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### 7. RGB

<table>
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<th>V-freq(Hz)</th>
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<th>Remark</th>
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- **RGB**
  - Analog PC, RGB DTV –NOT SUPPORT

### 8. HDMI Input

(1) PC - Spec. out but it can be shown the picture at only HDMI/ DVI IN 1 via DVI to HDMI Cable)

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<th>No</th>
<th>Resolution</th>
<th>H-freq(kHz)</th>
<th>V-freq(Hz)</th>
<th>Pixel clock(MHz)</th>
<th>Proposed</th>
<th>Remark</th>
</tr>
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<tbody>
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<td>1</td>
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<td>59.94</td>
<td>25.17</td>
<td>VESA( VGA)</td>
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<td>800 x 600</td>
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<td>60.317</td>
<td>40.00</td>
<td>VESA( SVGA)</td>
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<td>VESA( XGA)</td>
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<td>59.87</td>
<td>79.5</td>
<td>VESA( WXGA)</td>
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ADJUSTMENT INSTRUCTION

1. Application Range
This specification sheet is applied to all of the LCD TV, LP91T chassis.

2. Specification
(1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of isolation transformer will help protect test instrument.
(2) Adjustment must be done in the correct order.
(3) The adjustment must be performed in the circumstance of 25±5ºC of temperature and 65±10% of relative humidity if there is no specific designation.
(4) The input voltage of the receiver must keep 100-220V, 50/60Hz.
(5) Before adjustment, execute Heat-Run for 5 minutes at RF no signal.

3. Adjustment items
3.1. PCB assembly adjustment items
(1) Download the MSTAR main software (IC800, Mstar ISP Utility)
   1) Using D/L Jig
   2) Using USB Memory Stick.
(2) Input Tool-Option/Area option.
(3) Download the EDID
   - EDID datas are automatically download when adjusting the Tool Option2
(4) ADC Calibration – RGB / Component
(4) Check SW Version.

3.2. SET assembly adjustment items
(1) Input Area option
(2) Adjustment of White Balance : Auto & Manual
(3) Input Tool-Option/Area option
(4) Intelligent Sensor Inspection Guide
(5) Preset CH information
(6) Factoring Option Data input

4. PCB assembly adjustment method
4.1. Mstar Main S/W program download
4.1.1. Using D/L Jig
(1) Preliminary steps
   1) Connect the download jigt to D-sub(RGB) jack
(2) Download steps
   1) Execute ‘ISP Tool’ program, the main window(Mstar ISP utility Vx.x.x) will be opened
   2) Click the “Connect” button and confirm “Dialog Box”
3) Click the “Config.” button and Change speed I2C Speed setting : 350Khz~400Khz
4) Read and write bin file.
   Click “(1)Read” tab, and then load download file(XXXX.bin) by clicking “Read”.

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5) Click "(2)Auto" tab and set as below
6) Click "(3)Run".
7) After downloading, you can see the "(4)Pass" message.

4.1.2. Using the Memory Stick
* USB download : Service Mode
1) Insert the USB memory stick to the ISB port.
2) Automatically detect the SW Version.
   -> S/W download process is executed automatically.
3) Show the message “Copy the file from the Memory”
4) After Finished the Download, Automatically DC Off -> On
5) Check The update SW Version.

4.2. Input tool option.
Adjust tool option refer to the BOM.
- Tool Option Input : PCBA Check Process
- Area Option Input : Set Assembly Process

After Input Tool Option and AC off
Before PCBA check, you have to change the Tool option and have to AC off/on (Plug out and in)
(If missing this process, set can operate abnormally)
(1) Profile : Must be changed the option value because being different with some setting value depend on module maker, inch and market
(2) Equipment : adjustment remote control.

(3) Adjustment method
- The input methods are same as other chassis.(Use IN-START Key on the Adjust Remocon.)
  (If not changed the option, the input menu can differ the model spec.)

Refer to Job Expression of each main chassis ass’y (EBTxxxxxxx) for Option value
Caution : Don’t Press “IN-STOP” key after completing the function inspection.

4.3. EDID D/L method
Recommend that don’t connect HDMI and RGB(D-SUB) cable when downloading the EDID.
If not possible, recommend that connect the MSPG equipment.
There are two methods of downloading the edid data

4.3.1. 1st Method
EDID datas are automatically downloaded when adjusting the Tool Option2.
Automatically downloaded when pushing the enter key after adjusting the tool option2.
It takes about 2seconds.

4.3.2. 2nd Method
* Caution : Must be checked that the tool option is right or not.
  If tool option is wrong, hdmi edid data could not be downloaded well.
1) Press the ADJ key
2) Move to the EDID D/L and Press the right direction key(G)
3) Press the right direction key(G) at Start.
4) After about a few seconds, appear “OK”, then compele.

4.3.3. RS-232C command Method
(1) Command : AE 00 10
* Caution
Don’t connect HDMI and RGB(D-SUB) cable when downloading the EDID.
If the cables are connected, Downloading of edid could be failed.
4.3.4. EDID data
(1) Analog(RGB): 128bytes
(2) HDMI 1 : 256Bytes
(3) HDMI 2 : 256Bytes
(4) HDMI 3 : 256Bytes

4.4. ADC Calibration

4.4.1. ADC Calibration - Component (Using External pattern)
(1) Required Equipments
- Remote controller for adjustment
- MSPG-925F/MSPG-1025/MSPG-3233 Pattern Generator
(2) Process
1) Change the Input to Component1 or 2 mode.
2) Input the Component 480i@60Hz 100% Color Bar YPbPr signal into Component1 or 2.
(MSPG-925F Model: 209 / Pattern: 65 )
3) Press ADJ key on R/C for adjustment.
4) Enter Password number. Password is “0 0 0 0”.
5) Select “0. ADC calibration : Component” by using D/E (CH +/-) and press ENTER(A).
6) ADC adjustment is executed automatically.
7) When ADC adjustment is finished, this OSD appear

4.4.2. ADC Calibration - RGB (Using External pattern)
(1) Required Equipments
- Remote controller for adjustment
- MSPG-925F/MSPG-1025/MSPG-3233 Pattern Generator
(2) Process
1) Change the Input to RGB mode.
2) Input the PC 1024x768@60Hz Horizontal Color Bar signal into RGB.
(MSPG-925F Model: 60 / Pattern: 65 )
3) Press ADJ key on R/C for adjustment.
4) Enter Password number. Password is “0 0 0 0”.
5) Select “0. ADC calibration : RGB” by using D/E (CH +/-) and press ENTER(A).
6) ADC adjustment is executed automatically.
7) When ADC adjustment is finished, this OSD appear
4.5. Check SW Version

(1) Method
1) Push In-star key on Adjust remote-controller.
2) SW Version check
   Check "SW VER : V3.xx"

5. PCB assembly adjustment method  

5.1. Input Area-Option

(1) Profile : Must be changed the Area option value because being different of each Country’s Language and signal Condition.
(2) Equipment : adjustment remote control.
(3) Adjustment method
   - The input methods are same as other chassis.(Use IN-START Key on the Adjust Remocon.)

Refer to Job Expression of each main chassis ass’y (EBTxxxxxxxx) for Option value.

* White Balance Adjustment
- Purpose : Adjust the color temperature to reduce the deviation of the module color temperature.
- Principle : To adjust the white balance without the saturation, Fix the one of R/G/B gain to 192 (default data) and decrease the others.
- Adjustment mode : Three modes - Cool / Medium / Warm
- Required Equipment
  1) Remote controller for adjustment
  2) Color Analyzer : CA100+ or CA-210 or same product - LCD TV( ch : 9 ), (should be used in the calibrated ch by CS-1000)
  3) Auto W/B adjustment instrument(only for auto adjustment)

5.2. Adjustment of White Balance

: (For automatic adjustment)

* LP91S/T Chassis Support Only I2C Interface.

(1) Enter the adjustment mode of DDC
- Set command delay time : 50ms
- Enter the DDC adjustment mode at the same time heat-run mode when pushing the power on by power only key
- Maintain the DDC adjustment mode with same condition of Heat-run => Maintain after AC off/on in status of Heat-run pattern display)

(2) Release the DDC adjustment mode
- Release the adjust mode after AC off/on or std-by off/on in status of finishing the Hear-run mode
- Release the Adjust mode when receiving the aging off command(F3 00 00) from adjustment equipment.
- Need to transmit the aging off command to TV set after finishing the adjustment.
- Check DDC adjust mode release by exit key and release DDC adjust mode)

(3) Enter the adjust mode of white balance)
- Enter the white balance adjustment mode with aging command (F3, 00, FF)
* Luminance min value is 150cd in the Cool/Medium/Warm mode(For LCD)

5.3. Adjustment of White Balance

(for Manual adjustment)
(1) Color analyzer(CA100+, CA210) should be used in the calibrated ch by CS-1000
(2) Operate the zero-calibration of the CA100+ or CA-210, then stick sensor to the module when adjusting.
(3) For manual adjustment, it is also possible by the following sequence.
  1) Select white pattern of heat-run by pressing “POWER ON” key on remote control for adjustment then operate heat run longer than 15 minutes. (If not executed this step, the condition for W/B may be different.)
  2) Push “Exit” key.
  3) Change to the AV mode by remote control.
  4) Input external pattern (85% white pattern)
  5) Push the ADJ key -> Enter “0000” (Password)
  6) Select “3. W/B ADJUST”
  7) Enter the W/B ADJUST Mode
  8) Stick the sensor to the center of the screen and select each items (Red/Green/Blue Gain and Offset) using D/E (CH +/-) key on R/C.
  9) Adjust R/ G/ B Gain using F / G (VOL +/-) key on R/C.
 10) Adjust three modes all (Cool / Medium / Warm) : Fix the one of R/G/B gain and change the others
 11) When adjustment is completed, Enter “COPY ALL”.
 12) Exit adjustment mode using EXIT key on R/C.
EXPLODED VIEW

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by △ in the Schematic Diagram and EXPLODED VIEW. It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards. Do not modify the original design without permission of manufacturer.
THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION.

FILE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFACTURED SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.

---

32" : MDS61887702, M1, M6
42" : MDS61887702, M1, M6
55" : MDS61887702, M1, M2, M3, M4, M6, M7, M8
47" : MDS61887703, M1, M3, M4, M6
THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION.

FIRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURES SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.
THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FRESH AND ELECTRICAL SHOCK HAZARDS, WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURES SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.
THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION.

FIRE AND ELECTRICAL SHOCK HAZARDS, WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFACTURES SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.

AMP : GAIN X 4

MNT_L_OUT

MNT_L_AMP

MNT_R_AMP

MNT_ROUT

EAX61181901
Mstar LCD SL80

+12V_AUDIO

6800pF

C701

MNT_LOUT

RT1

C3904-T112Q701E

BC

MNT_L_AMP

RT1

C3904-T112Q700E

BC

MNT_R_AMP

RT1

C3904-T112Q700E

BC

MNT_ROUT

+12V_AUDIO

33pF

C702

33pF

C703

0.01uF

C704

1KR

R703

1KR

R702

4.7KR

R701

4.7KR

R700

10KR

R707

10KR

R704

6.8KR

R709

6.8KR

R708

5.6KR

R706

5.6KR

R705

0.1uF

C707

0.1uF

C709

IC701

3 INPUT1+

2 INPUT1-

4 VCC

1 OUT1

6 INPUT2-

5 INPUT2+

7 OUT2

8 OUT3

9 INPUT3-

10 INPUT3+

11 GND

12 INPUT4+

13 INPUT4-

14 OUT4

1 OUT1 LOUT/ADOUT4

13 INPUT4-

12 INPUT4+

11 GND

10 INPUT3+

9 INPUT3-

8 OUT3

7 OUT2

6 INPUT2-

5 INPUT2+

4 VCC

3 INPUT1+

2 INPUT1-

1 OUT1 LOUT/ADOUT4

+12V_AUDIO

3 INPUT1+

2 INPUT1-

4 VCC

1 OUT1 LOUT/ADOUT4

+12V_AUDIO

3 INPUT1+

2 INPUT1-

4 VCC

1 OUT1 LOUT/ADOUT4
THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.